SHOP TALK

VOLUME 1 CHAPTER 1

As collectors we all seem to run into problems that at first seem to big to handle ourselves. In Shop Talk we hope we can look at these issues and break them down into simple fixes by doing a step at a time. While having the right tools and equipment is a plus sometimes just looking at the problem in steps instead of the whole thing is the best way to address the problem.

In this issue we are going to deal with a rusted out support under a side cabinet of a fire truck.

The first thing is to identify the problem and identify the material that you need to fix the problem. What we have here is a basic 2”x 2”x1/8” steel tubing, a piece of ¼” x 2” angle. We can see by the crack in the rear where the bottom of the cabinet is welded to the angle that this has created a stress point or pressure point that will need to design a repair to keep this from reoccurring. The angle is welded to the bottom of the cabinet and the tube assy. The tube assembly is bolted in the rear.

The easiest way to remove this is to cut the welds off from the bottom of the cabinet and tube assembles, by angle using a cut off grinder, and then remove the bolts from the frame of the truck.

Once we get it out where we can see it most of the assembly. looks pretty good with the exception of the tube. We are going to take our cut off grinder again and grind off the welds that hold the tube onto the assembly.

With the bad tube removed we are ready to cut and weld a new tube back into the assembly.

After we weld the tube back into the assembly it’s time to bolt the assembly back on the trucks frame..

We spoke prior about the stress point cause by the angle bracket being welded to the bottom of the cabinet. The old angle was welded about three inches away from the back bend. This created a pressure point right on the end where the angle was attached. We are going to change this by first welding in a 3/16 steel plate 20 inches square. This will distribute the attached load across the whole bottom of the cabinet. Instead of just using one angle piece on one side of the tube we are going to use two angles, one on each side of the tube. One more change, we are going to make the angle longer and go all the way back to the bend which is the strongest place and this to will distribute the load across the length of the cabinet.

Make sure when you're done you apply an undercoat on the bare metal to prevent it from rusting out again.

Now we still had a hole in the under cabinet and we want to stop the prior cracks from spreading any farther. For the cracks we are going to take our disc grinder and cut into the crack and a little past the ends of the cracks. Then weld the spots and this will prevent the crack from spreading.

.

The whole through the bottom is going to be another easy fix.

Since it is underneath and the bottom can’t be seen we are going to take a piece of scrap metal and hold it underneath as we weld the hole up.

We have chosen to diamond plate the inside. This is easy to cut and work with. For this we measured the cabinet prior and had the plate cut to size when they delivered it. We had to trim one corner to fit around one of the uprights. We put the plate in place drilled with the correct size drill and riveted it place.